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ABSTRACT

Scholastic achievements of high school students and the impact which these achievements have on adolescents' feelings of personal worth are examined. Nine hundred and thirty-four subjects from nine Iowa secondary schools participated in the study. The hypothesis that in high academic achievers more positive self-concept scores are found among older males and younger females, thus reflecting the age level when academic accomplishments were given the highest peer approval, was partially disproven. The predicted age-related decline in the impact of academic achievement on female self-concept failed to result. As an upperclassman, the achieving male appears to have a more positive self-concept than the achieving underclassman. This combination of results indicates that if a group were to be chosen as being limited by some form of stereotype, it should be the male underclassmen rather than the female upperclassmen. (Author/DE)

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Grade and Sex Differences in the Impact of Academic Achievement

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ABSTRACT

The relationship between level of academic achievement and student self-concept was investigated. Based upon recent hypotheses concerning sex differences in the priority of academic accomplishments, it was predicted that the self-concept of older males and younger females would be most strongly influenced by the level of academic competence. This hypothesis was supported only for the male group. It was argued that younger males rather than older females were most debilitated by sex-role stereotypes.

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Recent authors (Bardwick, 1971; Horner, 1968; Maccoby, 1966) have hypothesized that socialized sex-role stereotypes influence academic performance and resultant self-evaluation. Maccoby (1966) stated that peer pressure to do well in school had a reverse time sequence for males and females. Pressures on gifted females not to achieve to their full potential were predicted to increase during adolescence. In males, the pressures for occupational preparation or college entrance were to lead to achievement more commensurate with ability. Similarly, Bardwick (1971) speculated that affiliative needs become the most important source of female self-esteem and that females may perceive academic achievement to be threatening to more important social achievements. In terms of academic performance or the impact of this performance upon feelings of personal worth, these authors have agreed that sex-role stereotypes are most academically debilitating for female adolescents.

Taking Coleman's (1961) model of adolescent behavior as a theoretical base, this research investigates possible sex differences in the relationship between academic achievement and adolescent self-concept. Coleman proposed that the high school environment served as the focal point of most adolescent's lives. Efforts of students within this environment were hypothesized to be given direction and value through the priorities of the peer group. The greatest effort was to be expended on those activities which brought high status within the peer group. In addition, high status among one's peers was found to be related to feelings of personal worth. In this way, successful participation in peer-valued activities

was linked to favorable self-evaluation.

Data drawn from Coleman's research provides some support for his model and for more recent hyptheses concerning different sex-role priorities. In support of his hypothesis concerning priorities and effort, Coleman was able to show that males named as "best scholars" had higher average IQs than females named to the same role. Coleman concluded that females fear academic success will make them unpopular and therefore do not achieve at full potential. Although females in general were found to earn higher grades than males, the female subjects listed academic success as a less important criterion for membership in the high-status leading crowd. No evidence was provided to indicate that male self-concepts were more strongly related to academic achievements, but such a prediction would follow from Coleman's data linking participation in priority activities, high status and more positive self-concepts.

This research is concerned with the scholastic achievements of high school students and the impact which these achievements have upon adolescents' feelings of personal worth. By incorporating the Maccoby (1966) and Coleman (1961) positions, certain relationships between academic achievement and self-concept were predicted. In general, it was hypothesized that self-concept would increase with level of academic accomplishment. However, this trend should be subject to age and sex differences. Among the high level achievers, it was predicted that more positive self-concept scores would be found among older males and younger females when comparisons were made within each sex. These hypothesized differences would reflect the age level when academic accomplishments were given the highest priority within each sex. In addition, the hypothesized pattern of self-concept differences should be paralleled by a similar pattern of differences in the perceived reward value of the academic portion of school life.

METHOD

Subjects - Nine hundred and thirty-four subjects from nine Iowa high schools participated in this study. Subjects were classified as male or female underclassmen (9th or 10th graders) or upperclassmen (11th or 12th graders). There were 226 male underclassmen, 247 male upperclassmen, 213 female underclassmen and 248 female upperclassmen.

Instruments and Procedure - The data of interest were taken from a questionnaire[1] administered to available classes of students. Administration of questionnaires was handled by the regular classroom instructors.

The questionnaire consisted of a self-concept inventory, an activity checklist, and a measure of the perceived reward value of the different activities. The self-concept instrument was comprised of the intellectual and school status, physical appearance and attributes, and popularity subscales from the Piers-Harris Children's Self-Concept Scale (Piers & Harris, 1964). The activity checklist allowed students to check or write in their school-related accomplishments during the past academic year. The data used here represents the number of academic achievements (times on the Honor Roll, National Honor Society, and other honoraries). The reward value data come from a seven point Likert type scale. Four of the points on this scale were anchored to a descriptive statement.

Analyses - The basic analysis procedure was a 2 (sex) x 2 (grade level) x 3 (level of academic achievement) unequal-n analysis of variance. The three levels of academic achievement represent zero, one and more than one listed academic accomplishment. Individual *t* tests were used to compare within-sex differences in the self-concept and perceived reward value of the highest classification of academic achievers. The frequency of academic accomplishment data were analyzed using a 2 (sex) x 2 (grade level) unequal-n analysis of variance.

RESULTS

The self-concept results are presented in Table 1. Level of academic accomplisment was the only main effect to reach an acceptable level of significance, $F(2,922)=39.41, p<.001$. Self-concept scores were shown to increase with increased numbers of academic achievements. The three way interaction of sex, grade level and level of academic achievement approached an acceptable level of significance, $F(2,922)=2.76, p<.07$. The within-sex comparisons of high level achievers indicated a significant difference between the two groups of male students, $t(111)=2.05, p<.05$, but not among the two female groups. Upperclass males were found to have higher self-concepts.

Insert Table 1 about here

The analysis of the perceived reward value of academic activities produced significant main effects for sex of subject, $F(1,922)=12.75, p<.001$, and level of academic achievement, $F(2,922)=84.39, p<.001$. These main effects indicate that females and those students who achieve in academic areas find academic activities to be the most rewarding. Neither the interactions from the analysis of variance nor the individual within-sex comparisons of high level achievers reached an acceptable level of significance.

Both main effects were significant in the analysis of the number of listed academic accomplishments. Females were found to indicate more academic achievements, $F(1,930)=28.14, p<.001$. The number of academic accomplishments was also found to increase across grade level, $F(1,930)=13.10, p<.001$. The interaction of grade and sex did not reach an acceptable level of significance.

DISCUSSION

The results of the present study are not supportive of those individuals predicting that peer priorities retard the academic performance of female high school students. Rather than being inferior, females were found to be

superior to males at both age levels in terms of the number of academic accomplishments. Perhaps of greater importance, the impact of superior academic achievement upon student self-concept was only partially in agreement with the hypothesized relationships. According to the Coleman (1961) model, achievement in priority activities leads to status within the peer group which in turn leads to a more positive self-evaluation. What seems to have changed across grade levels in the present study is the impact that academic achievement has upon the male's self-evaluation. As an upperclassman, the achieving male seems to have a more positive self-concept than the achieving underclassman. Perhaps peer regard for male academic achievement has increased as a prerequisite to this change. The predicted age-related decline in the impact of academic achievement upon female self-concept failed to materialize. This combination of results indicates that if a group were to be chosen as being limited by some form of stereotype, it should be the male underclassmen rather than the female upperclassmen.

The lack of fit between the self-concept and reward results is puzzling. A possible explanation is that the reward scores reflect personal satisfaction in achievement while the self-concept scores may reflect an ability to meet the standards of significant others. Thus, males may find academic achievement personally satisfying at any age. However, this personal satisfaction does not manifest itself as positive self-regard until the peer group indicates that academic accomplishments are valuable.

This study makes some interesting predictions about what might be found in a longitudinal study. The population of greatest interest in such a study would be high ability males who are active only in academic activities. The results presented here suggest that this group would develop a more positive self-image as they pass through high school. In this case, the individual would remain basically constant, while the criteria against which he must judge himself would change. The present author has such a study in progress.

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FOOTNOTES

1. Questionnaires available upon request.

Table 1

Average Self-Concept

Group	Level of Achievement 0	1	2
Male			
Underclassmen	20.13 (127)	22.51 (47)	21.79 (52)
Upperclassmen	19.51 (144)	21.76 (42)	23.60 (61)
Female			
Underclassmen	19.99 (97)	21.75 (48)	23.06 (68)
Upperclassmen	20.26 (91)	22.38 (61)	23.00 (96)

Numbers in parenthesis represent sample size.